

Before the  
**Federal Communications Commission**  
Washington, D.C. 20554

In the Matter of	)	
	)	
Flexibility for Delivery of Communications By	)	IB Docket No. 01-185
Mobile-Satellite Service Providers in the 2 GHz	)	
Band, the L-Band, and the 1.6/2.4 GHz Band	)	
	)	
Amendment of Section 2.106 of the Commission's	)	ET Docket No. 95-18
Rules to Allocate Spectrum at 2 GHz for Use	)	
By the Mobile-Satellite Service	)	

**REPLY COMMENTS OF  
THE BOEING COMPANY**

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## SUMMARY

Boeing reiterates its support for the Commission's proposal to permit ancillary terrestrial services ("ATS") to be offered by MSS operators in the 2 GHz Band. Boeing stresses that this authorization should be limited to ATS that is integrated into the MSS service such that the MSS licensee remains in full and complete control. In short, no "independent" providers of terrestrial service should be able to access the 2 GHz Band and especially any of Boeing's current and expected future spectrum in the band.

Further, Boeing cites the ATS proposal by New ICO Global Communications ("New ICO") as an effective example of a truly ancillary and integrated terrestrial component to its planned MSS service. It would appear that this proposed ATS structure would provide the economic and technical elements by New ICO to ensure the viability of its MSS service. Therefore, it is perhaps a model for other MSS providers contemplating adding an ancillary terrestrial component to their MSS service.

Boeing agrees with the majority of commenters, including both supporters and opponents of the ATS proposal, that the Commission must not permit harmful interference to MSS operators in adjacent bands. In its comments Boeing described potential interference based on the so-called "near-far" problem. After further analysis, Boeing has identified an additional potential interference problem to adjacent operators where an MSS receiver terminal could suffer from a power "overload" caused by a nearby ATS transmitter. Boeing also agrees with representatives of the airline and airline-testing industries that current flight safety and testing activities in the upper L-band would have to be protected against any harmful interference from ATS operations in that band.

Several commenters request that if the Commission authorizes ATS, then the incumbent relocation rules be stayed or restarted. Boeing opposes any such step. These rules have already been in operation for more than a year and should be permitted to run their course. If, however, the Commission decides to suspend or alter them, then a concomitant change in the construction milestones applicable to the MSS licensees must also be enacted.

Finally, Boeing advises the Commission yet again not to allow this proceeding to become a “backdoor” or “trade off” with the commercial wireless industry for terrestrial “3G” advanced wireless services. Comments from this industry call into question the basis for the 2 GHz Band allocation for MSS and claim that its “highest and best” use would be for terrestrial 3G. Boeing disagrees. No party has challenged Boeing’s proposed MSS system for air traffic management. Furthermore, Boeing intends to seek – and expects to qualify for – the expansion spectrum in the band as provided for in the Commission’s rules. Making all or any of the 2 GHz Band available for terrestrial 3G at this time would effectively doom these services, including Boeing’s, before their market viability can be determined.

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To: The Commission

**REPLY COMMENTS OF  
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The Boeing Company ("Boeing"), by its attorneys and pursuant to Section 1.415 of the Commission's rules, 47 C.F.R. § 1.415, respectfully submits its Reply Comments addressing comments filed in response to the Notice of Proposed Rulemaking ("*NPRM*") in the above-captioned proceeding<sup>1</sup> regarding the provisioning of ancillary terrestrial services ("ATS") in the Mobile Satellite Services ("MSS") band at 1990-2025 MHz and 2165-2200 MHz ("2 GHz Band").<sup>2</sup>

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<sup>1</sup> *In the Matter of Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band*, IB Docket No. 01-185, Notice of Proposed Rulemaking, FCC 01-225 (rel. August 17, 2001) ("*Flexible Use NPRM*").

<sup>2</sup> The source for this proposal comes from an *ex parte* letter from New ICO Global Communications (Holdings) ("New ICO"). *Ex Parte* letter from Lawrence H. Williams and Suzanne Hutchings, New ICO Global Communications (Holdings) Ltd., to Chairman Michael K. Powell, Federal Communications Commission, IB Docket No. 99-81 (March 8, 2001). Except regarding a question of possible harmful interference, Boeing offers no comment on the companion proposal to provide ATS in the upper L-band. *See Flexible Use NPRM* at 3.

In its prior filings, Boeing has stated that it could support a proposal to permit ATS that is integrated with planned MSS operations in the 2 GHz Band.<sup>3</sup> This proceeding has already seen a great number of supporters<sup>4</sup> and opponents<sup>5</sup> of such a concept. This proposal was supported by many of the MSS operators and licensees. The reasons for the opposition are varied including concerns regarding potential harmful interference from wireless terrestrial operations in the 2 GHz Band.

Other commenters, especially those representing the commercial terrestrial wireless industry, take the position that some or all of the 2 GHz Band should be reallocated for advanced

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<sup>3</sup> Comments of The Boeing Company (“*Boeing Comments*”) at 4-5. *See Ex Parte* Letter from Valerie K. Schurman, Vice President & Assistant General Counsel, Space and Communications, The Boeing Company to Michael Powell, Chairman, Federal Communications Commission, IB Docket 99-81 (April 5, 2001) (commenting on New ICO proposal to offer ancillary terrestrial service).

<sup>4</sup> *See, e.g.*, Comments of American Petroleum Institute (“*API Comments*”) at 4; Comments of Comtech Mobile Datacom Corporation (“*Comtech Mobile Comments*”) at 3; Comments of Progress & Freedom Foundation (“*Progress & Freedom Comments*”) at 12; Comments of Celsat America Consolidated (“*Celsat Comments*”) at 7; Comments of Globalstar and L/Q Licensee (“*Globalstar and L/Q Comments*”) at 2; Comments of New ICO Global Communications (“*New ICO Comments*”) at 15; Comments of Motient Services, TMI Communications and Company and Mobile Satellite Ventures Subsidiary (“*Motient Comments*”) at 5; Comments of TMI Communications and Company (“*TMI Comments*”) at 1-2; Comments of Constellation Communications Holdings (“*Constellation Comments*”) at 1-2; Comments of Loral Space & Communications at 5; Comments of The Unofficial Bondholders Committee of Globalstar (“*Globalstar Bondholders Comments*”) at 23; Comments of Mobile Communications Holdings (“*Mobile Communications Comments*”) at 8.

<sup>5</sup> *See, e.g.*, Comments of Aerospace and Flight Test Radio Coordinating Council (“*AFTRCC Comments*”) at 1-2; Comments of Society of Broadcast Engineers (“*SBE Comments*”) at 7; Comments of Aviation Industry Parties (“*Aviation Industry Comments*”) at 1-2; Comments of Telenor Broadband Services AS (“*Telenor Comments*”) at 6; Comtech Mobile Comments at 2; Joint Comments of Association for Maximum Service Television and National Association of Broadcasters (“*Max TV/NAB Joint Comments*”) at 14; Comments of Wireless Communications Association International (“*Wireless Int’l Comments*”) at 2; Comments of Kitcomm Satellite Communications (“*Kitcomm Comments*”) at 3; Comments of Wireless Communications Division of the Telecommunications Industry Association (“*WCD/TIA Comments*”) at 1-2; Comments of Mobile Satellite Users Association (“*Mobile Satellite Users Comments*”) at 5; TMI Comments at

wireless services, the so-called “3G.”<sup>6</sup> Boeing strongly opposes any such change in the current allocation of the 2 GHz Band for MSS operations. The current 2 GHz Band service rules provide a mechanism for Boeing and the other 2 GHz Band licensees to acquire this additional spectrum. Boeing and other MSS licensees must not be denied these long-promised spectrum rights.

**I. ANY TERRESTRIAL SERVICES MUST BE INTEGRATED AND ANCILLARY TO THE MSS SERVICE**

Boeing agrees with those commenters who, while supporting the concept of ATS, caution the Commission to limit how MSS operators may offer ATS. As suggested by New ICO Global Communications (“New ICO”), any ATS must be fully integrated and truly ancillary to the MSS operations. In other words, the service must remain at all times an MSS offering. No “independent” providers of terrestrial services should have access to the MSS spectrum.

**A. Only an integrated and ancillary terrestrial service should be permitted**

The New ICO proposal makes it clear that any ATS offering must be fully integrated with and ancillary to the licensed MSS operations.<sup>7</sup> Other supporters, including Boeing, agree that this must be a requirement of ATS operations.<sup>8</sup> As explained by New ICO, true integration will accomplish four goals. First, an integrated ATS will improve signal strength and reception.<sup>9</sup>

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3; Constellation Comments at 34; Globalstar Bondholders Comments at 31; Comments of Inmarsat Ventures (“*Inmarsat Comments*”) at 12.

<sup>6</sup> See, e.g., Comments of Cellular Telecommunications & Internet Association (“*CTIA Comments*”) at 14; Comments of AT&T Wireless Services (“*AWS Comments*”) at 8; Joint Comments of Cingular Wireless and Verizon Wireless (“*Cingular and Verizon Joint Comments*”) at 20; Progress & Freedom Comments at 18, 19.

<sup>7</sup> New ICO Comments at 17-25.

<sup>8</sup> See, e.g., API Comments at 4; Globalstar and L/Q Comments at 13-14; cf. Constellation Comments at 18-19.

<sup>9</sup> New ICO Comments at 17-18.

Second, an integrated ATS will permit MSS subscribers, rural and maritime, to benefit from larger market economies of scale for equipment, service offerings and geographic coverage.<sup>10</sup> Third, true nationwide coverage by MSS operators through ATS will create incentives for new types of service offerings.<sup>11</sup> And, fourth, integrated ATS will maximize spectrum efficiencies in MSS frequency bands between urban and rural settings.<sup>12</sup> Moreover, according to New ICO, in an integrated MSS network a “dynamic resource management algorithm” could alter in real-time the level of terrestrial and satellite capacity so that there is sufficient spectrum for changing traffic volumes.<sup>13</sup> Boeing supports these goals and believes that they can be achieved by authorizing ATS within the parameters suggested by New ICO.

**B. No “independent” terrestrial providers should have access to the MSS spectrum on any terms**

Boeing’s proposed MSS service in the 2 GHz Band is unique. As described in its comments, Boeing proposes to provide Aeronautical Mobile-Satellite (Route) Service (“AMS(R)S”) to the domestic and international aviation community via satellite-based air traffic management and communications, navigation and surveillance system.<sup>14</sup> These are safety critical applications for which interference by third parties would have a devastating effect.<sup>15</sup> In short, Boeing cannot share its spectrum with any terrestrial provider regardless of how that provider might gain access.

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<sup>10</sup> *Id.* at 19-21.

<sup>11</sup> *Id.* at 21-23.

<sup>12</sup> *Id.* at 23-25.

<sup>13</sup> *Id.* at 34-35.

<sup>14</sup> Boeing Comments at 2-4. *See In the Matter of Application of The Boeing Company Concerning Use of the 1990-2025/2165-2200 MHz and Associated Frequency Bands for a Mobile-Satellite System*, Order and Authorization, DA 01-1631 (rel. July 17, 2001).

<sup>15</sup> The likely interference problems are addressed in Section II, *infra*.



In addition, Boeing is concerned that if terrestrial providers are permitted in the 2 GHz Band, they will have to be relocated once Boeing – or another MSS licensee – acquires additional spectrum in the band. Boeing will seek its full spectrum request – at least 8 MHz in each direction – beyond the current 3.5 MHz assignment.<sup>16</sup> This additional spectrum will likely come from the spectrum assignments “abandoned” by other 2 GHz MSS licensees. If the Commission decides in this proceeding to permit independent terrestrial wireless operators in the band, these “new” incumbent providers would have to be relocated from the spectrum Boeing acquires. Boeing cannot operate its planned AMS(R)S service if any terrestrial providers are allowed in its spectrum,<sup>17</sup> and Boeing is already required to pay for the relocation costs of current incumbents.<sup>18</sup> In the time since the Commission issues its relocation rules, nothing has changed relative to sharing spectrum between MSS and terrestrial users that would warrant the reintroduction of terrestrial service providers in the 2 GHz Band. Boeing should not have to pay twice – once for current incumbents and again for “new” incumbents – for relocating incumbents.

**C. Certain service conditions should be satisfied before ancillary terrestrial services can be offered by any MSS operator**

If ATS is to be permitted, Boeing reiterates its position that such MSS operators must satisfy certain service conditions prior to receiving this authorization.<sup>19</sup> The operating licenses granted to the eight MSS operators in the 2 GHz Band set forth specific construction and

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<sup>16</sup> See Minor Amendment to Application of The Boeing Company, File No. 90-SAT-AMEND-98 (20); IBFS File No. SAT-AMD-19980318-00021 (February 11, 1998); Public Notice, Report No. SPB-119 (rel. March 19, 1998); Letter from Bruce A. Olcott, Counsel to The Boeing Company to Magalie Roman Salas, Secretary, Federal Communications Commission (January 8, 1999) (collectively, “*Boeing’s 2 GHz MSS Application*”).

<sup>17</sup> See Boeing’s 2 GHz MSS Application.

<sup>18</sup> The relocation rules are discussed in Section III, *infra*.

coverage requirements over a five-year period.<sup>20</sup> A failure to comply with these milestones could result in an MSS licensee losing its authorization and selected spectrum assignment.<sup>21</sup> As Boeing noted in its comments in this proceeding, ATS should not be permitted until there is full compliance with these requirements<sup>22</sup> and, as the Commission suggested in the *NPRM*, a minimum level of nationwide coverage is also achieved.<sup>23</sup>

Boeing is not alone in this view. In fact, no commenter expressed any opposition. TMI Communications and Company, an authorized MSS provider in the 2 GHz Band, agrees, contending that no terrestrial stations should be authorized until the associated MSS network is first operational.<sup>24</sup> This requirement, furthermore, will ensure that the ATS remains truly ancillary to the provision of MSS services.<sup>25</sup> Globalstar's bondholders also concur. They recognize that requiring satisfaction of the coverage requirements proposed by the Commission would prevent any ATS offering from "undermining" the associated MSS services.<sup>26</sup> Consequently, the Commission should impose these requirements.

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<sup>19</sup> Boeing Comments at 8-9.

<sup>20</sup> See *In the Matter of the Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, IB Docket 99-81, Report and Order, 15 FCC Rcd 16127, 16177-78 ¶¶ 106-07 (2000) ("2 GHz MSS Order").

<sup>21</sup> *Id.* at 16177-78 ¶ 106.

<sup>22</sup> Boeing Comments at 8-9.

<sup>23</sup> *Flexible Use NPRM* at ¶ 32.

<sup>24</sup> TMI Comments at 3.

<sup>25</sup> *Id.* at 2-3.

<sup>26</sup> Globalstar Bondholders Comments at 29-30.

## **II. THE COMMISSION MUST PROTECT ADJACENT OPERATORS FROM HARMFUL INTERFERENCE**

Supporters and opponents of ATS in the MSS frequency bands express similar concerns about possible harmful interference to MSS operations by adjacent terrestrial operations.<sup>27</sup> In its comments, Boeing illustrated a sharing problem between an MSS service and ATS that exist in some scenarios.<sup>28</sup> In the time since submitting its comments, Boeing has conducted a further analysis of the potential interference problems, which revealed an additional interference issue that should be brought to the Commission's attention.

The scarcity and uncertainty of operating spectrum worldwide for Boeing's proposed AMS(R)S service requires that the receiver front end be open to the entire 35 MHz downlink band. As a result, the Boeing receiver would suffer interference from ATS mobile and base stations at in-band levels. The nominal signal power used in Boeing's service is approximately -165 dBW. The overload threshold for an ARINC MSS receiver terminal is about -80 dBW. To avoid overloading the Boeing receiver, a separation range of about 39 m would be necessary for an ATS user terminal and about 2.7 km for an ATS base station. Boeing asks that the Commission also consider this potential interference problem and its ramifications in the Commission's deliberations.

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<sup>27</sup> See, e.g., AFTRCC Comments at 1-2; SBE Comments at 7; Aviation Industry Comments at 1-2; Telenor Comments at 6; Comtech Mobile Comments at 2; Max TV/NAB Joint Comments at 14; Wireless Int'l Comments at 2; Kitcomm Comments at 3; WCD/TIA Comments at 1-2; Mobile Satellite Users Comments at 5; TMI Comments at 3; Constellation Comments at 3-4; Globalstar Bondholders Comments at 31; Inmarsat Comments at 12.

<sup>28</sup> Termed the "near-far" propagation characteristic, it would produce unacceptable levels of interference to Boeing's proposed MSS service because of the greater power levels utilized by ATS receiver terminals as compared to a nearby MSS user terminal. The near-far problem also occurs where an ATS transmitter is operating in an adjacent band. Boeing Comments at 12 and Appendix A.

Two commenters, the Aerospace and Flight Test Radio Coordinating Council (“AFTRCC”) and the Aviation Industry Parties (consisting of the Air Transport Association of America, the International Air Transport Association, and Aeronautical Radio, Inc.) note that the upper L-band frequencies, at 1525-1559 MHz and 1646.5-1660.5 MHz, are currently used in the United States for safety related flight test operations.<sup>29</sup> AFTRCC asks that the Commission ensure that no terrestrial service interfere with these activities,<sup>30</sup> while the Aviation Industry Parties oppose terrestrial operations in the upper L-band.<sup>31</sup> Boeing utilizes the upper L-band to conduct flight test operations. Boeing agrees with AFTRCC that the Commission must ensure that terrestrial MSS operations in the upper L-band do not interfere with these critical safety flight test operations.

### **III. INCUMBENT RELOCATION RULES AND PROCEDURES SHOULD NOT BE ALTERED**

The Commission has received comments advocating that the incumbent relocation rules in the 2 GHz Band be adjusted or delayed. These rules provide that incumbent Broadcast Auxiliary Service (“BAS”) users in the 1990-2110 MHz band be relocated in two phases based on market size.<sup>32</sup> MSS operators will pay for these relocation costs.<sup>33</sup> In addition, the Commission imposed a mandatory two-year negotiation period for the individual parties to

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<sup>29</sup> AFTRCC Comments at 1; Aviation Industry Comments at 4-5. Boeing notes that it is a member of AFTRCC.

<sup>30</sup> AFTRCC Comments at 3.

<sup>31</sup> Aviation Industry Comments at 1-2.

<sup>32</sup> *Amendment of Section 2.106 of the Commission’s Rules to Allocate Spectrum at 2 GHz by the Mobile Satellite Service*, Second Report and Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315, 12326-27 ¶¶ 29-32 (2000).

<sup>33</sup> *Id.* at 12327 ¶ 35.

arrange for BAS relocation.<sup>34</sup> These rules, now in effect, need not and should not be changed. Any changes now would seriously undermine Boeing's ability to meet its construction milestones.

The Society of Broadcast Engineers ("Society") asks that the current two-year negotiation period, which began on September 6, 2000, be placed "on hold" or restarted.<sup>35</sup> Citing this proceeding and the companion 3G proceeding in ET Docket No. 00-258, the Society claims that it is now unreasonable to require broadcasters to enter into binding negotiations when it is possible that a terrestrial component will be authorized for MSS operators in the 2 GHz Band<sup>36</sup> thereby attempting to argue that the broadcasters will not know with whom they are to negotiate and what technical requirements they will need to have.<sup>37</sup> Similarly, the Association for Maximum Service Television and the National Association of Broadcasters ("Max TV/NAB") ask that the Commission reconsider the current relocation plan for BAS in the 2 GHz Band.<sup>38</sup> Authorizing ATS for MSS operators, according to Max TV/NAB, fundamentally alters the assumptions underlying the relocation plan.<sup>39</sup>

Boeing disagrees.<sup>40</sup> Authorizing ATS for MSS licensees in the 2 GHz Band should not necessitate any change in the relocation rules currently in place and in operation.<sup>41</sup> If, however,

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<sup>34</sup> *Id.* at 12331 ¶ 46.

<sup>35</sup> SBE Comments at 3-5.

<sup>36</sup> *Id.* at 4.

<sup>37</sup> *Id.*

<sup>38</sup> Max TV/NAB Comments at 7-10.

<sup>39</sup> *Id.* at 10.

<sup>40</sup> New ICO also argues that the current relocation rules are sufficient and do not need to be altered if ATS is authorized. New ICO Comments at 50-51. However, according to New ICO, if any of the 2 GHz Band is reallocated to 3G such that additional burdens would be imposed on the MSS licensees, then the 3G operators should take on the cost of incumbent relocation. *Id.* at 51.

the Commission decides to alter any element of the scheduled relocation of incumbents then the construction milestones applicable to the MSS licensees must be similarly adjusted. It would be categorically unfair to delay the time for relocating incumbents but still hold the MSS licensees to the same construction milestones, which would all but ensure that no licensee could meet these milestones.

#### **IV. EXPANSION SPECTRUM MUST BE MADE AVAILABLE TO MSS LICENSEES AND NOT REALLOCATED TO WIRELESS 3G**

As expected, and as Boeing had warned in its comments, the terrestrial wireless industry views this proceeding as yet another means by which to acquire spectrum for their speculative terrestrial 3G services.<sup>42</sup> While paying lip service to the ATS concept in the 2 GHz Band, the Cellular Telecommunications & Internet Association (“CTIA”) claims that there remains little viability for MSS services and, therefore, the entire 2 GHz Band should be made available for commercial wireless terrestrial service and auctioned.<sup>43</sup> AT&T Wireless echoes these sentiments, contending that the highest and best use of the 2 GHz frequency band is to make it

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<sup>41</sup> In conjunction with its comments in both this proceeding and in ET Docket No. 00-258, on October 22, 2001, Max TV/NAB also filed a Motion for Stay in ET Docket No. 95-18 regarding the mandatory two-year negotiation period for relocating incumbents. *See* Motion for Stay of Mandatory Negotiation Period of the National Association of Broadcasters and the Association for Maximum Service Television, Inc., ET Docket No. 95-18 (filed October 22, 2001). On October 29, 2001, Boeing submitted its opposition to the motion on the grounds that it constitutes nothing more than an untimely filed petition for reconsideration of the underlying Commission order that established the relocation rules and, therefore, is procedurally defective and must be dismissed. *See* Opposition to Motion for Stay of The Boeing Company, ET Docket No. 95-18 (filed October 29, 2001). Boeing herein restates its opposition to the Motion to Stay.

<sup>42</sup> Boeing references its comments and reply comments in the companion 3G proceeding in ET Docket No. 00-258, *Amendment of Part 2 of the Commission’s Rules to Allocate Spectrum Below 3 GHz*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, FCC 01-224 (rel. August 20, 2001).

<sup>43</sup> CTIA Comments at 6.

available to CMRS operators for terrestrial 3G.<sup>44</sup> Cingular Wireless and Verizon Wireless also contend that the viability of MSS services is in doubt and, therefore, the frequency band should be auctioned for terrestrial 3G.<sup>45</sup> Conspicuously absent is any suggestion by these or any other party in this proceeding that Boeing's proposed MSS system is neither viable nor a "highest and best" use of the 2 GHz MSS frequency band.

Boeing, like the seven other 2 GHz MSS licensees, was granted only 3.5 MHz of spectrum in each direction, which is far less than its initial request for at least 8 MHz.<sup>46</sup> Realizing that this amount of spectrum would probably be insufficient to support some or all of the proposed MSS services, the Commission provided that qualifying licensees could obtain "expansion" spectrum in the band upon a showing that they are capable of providing service directly to consumers in unserved areas.<sup>47</sup> In addition, other MSS licensees may be able to access spectrum "abandoned" by those licensees who fail to meet the construction milestones.<sup>48</sup> Boeing agrees with these wireless industry commenters that market forces should decide the fate of the 2 GHz MSS services. However, support for this principle should not automatically require that the Commission prohibit these current 2GHz licensees from utilizing ATS as part of their overall MSS offering nor deny any said licensee the opportunity to access the expansion spectrum as provided for in the 2GHz service rules. Boeing fully expects that it must and will expand into additional spectrum in the 2 GHz Band.

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<sup>44</sup> AWS Comments at 8-11.

<sup>45</sup> Cingular and Verizon Joint Comments at 20-23.

<sup>46</sup> *2 GHz MSS Order* at 16138-39 ¶ 17.

<sup>47</sup> *Id.* at 16146 ¶ 35.

<sup>48</sup> *Id.* at 16139 ¶ 18.

Any claim that the MSS licensees received their spectrum for “free” is without merit.<sup>49</sup>

The cost structures of MSS and cellular or PCS terrestrial services is an apples and oranges proposition. While these MSS licensees did not acquire their spectrum through competitive bidding, they face significant costs in network build-out and relocation of incumbents.<sup>50</sup> It should also not be forgotten that many, if not all, of the commenting wireless providers received their initial spectrum allocations from the Commission without charge. The cost of deploying a satellite-based network runs well into the billions of dollars for the development, design and launch of multiple satellites as well as their operation and maintenance as a network. If a satellite fails or is lost, a new one must be launched. All of these efforts in the 2 GHz Band are to be made under strict construction milestones. Moreover, global satellite systems such as Boeing’s face substantial costs in obtaining the necessary authorizations to provide service in numerous countries. Reallocating and auctioning off any of the 2 GHz MSS frequency band for 3G terrestrial services would effectively doom these services before their market viability could be tested, which would appear to be what the commercial terrestrial wireless industry actually wants.

Boeing requests that the Commission not permit any authorization of ATS in the MSS frequency bands to become, in effect, a “backdoor” or “trade off” for terrestrial wireless providers to acquire this spectrum for 3G. The current rules provide a mechanism by the 2 GHz MSS licensees may qualify to acquire “expansion” spectrum, including any spectrum recovered from other licensees who fail to meet their construction milestones. Boeing will need and

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<sup>49</sup> See, e.g., AWS Comments at 4-8; Cingular and Verizon Joint Comments at 10-11; CTIA Comments at 8-9; Progress & Freedom Comments at 13.

<sup>50</sup> See Section III, *supra*.



expects to qualify for some portion of this additional spectrum. Accordingly, no part of the 2 GHz Band should be made available now or in the future for 3G.

## **V. CONCLUSION**

Boeing supports ancillary terrestrial services that are truly ancillary and fully integrated into the MSS operations. “Independent” terrestrial providers must not have access to any MSS spectrum, and especially that spectrum to be utilized by Boeing. The example illustrated by New ICO would appear to be an effective model. That said, the Commission must ensure that adjacent operators do not suffer from harmful interference either in the downlink band or due to a power “overload” to their MSS receiver terminal.

Further, any authorization of ancillary terrestrial services must not result in a stay or restart of the incumbent relocation rules. Boeing and other MSS licensees are subject to strict construction milestones. Any change in the relocation rules now would jeopardize the ability to meet these milestones. Last, the Commission must guard against any attempt by the commercial

wireless industry to use this proceeding to overturn the MSS allocation in the 2 GHz band and use this spectrum for 3G terrestrial wireless services.

Respectfully submitted,

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